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DIVISION OF
OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
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ANNUAL REPORT OF MINING OPERATIONS

The informational requirements of this form are based on provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, as amended, and the General Rules as promulgated under the Utah Minerals Regulatory Program. An operator conducting mining operations under a Notice of Intention must file an annual operations and progress report (FORM MR-AR) with the Division.

I. GENERAL INFORMATION

1. Report Time Period: From (mo./yr.) Jan. 1993 To (mo./yr.) Dec. 1993
2. DOGM File Number: M/023/003
3. Mine Name: Topaz Mining Property
4. Mineral(s) Mined: (or permitted to mine): Bertrandite (beryllium)
5. Legal Description (Location of Lands Affected):

See enclosed description...

1/4, 1/4, Section , Township , Range
1/4, 1/4, Section , Township , Range
1/4, 1/4, Section , Township , Range

6. Name of Operator or Company: Brush Wellman, Inc.

7. Permanent Address: P.O. Box 815
City, State, Zip: Delta, Utah, 84624
Phone: (801) 864-2701

8. Company Representative (or designated operator):
Name: Greg G. Hawkins
Title: Mine Manager
Business Address: P.O. Box 815
City, State, Zip: Delta, Utah 84624
Phone: (801) 864-2701 ext. 211

☐ Please check if any of the above information has changed since previous year.

II. MINING AND RECLAMATION

1. Was the mine active during the past year? Yes ☒ No ☐
2. If active, how much ore or mineral was mined? 111,682 Wet tons (delivered)

3. How much **additional acreage** was affected during past year? No new acreage disturbed.
4. Briefly describe any new or additional surface disturbances that occurred during the past year. This description should include the type of work performed, and volume of material moved.

-NA- All areas were previously disturbed

5. How much acreage was **reclaimed** during past year? None (ahead of schedule)
6. Briefly describe the reclamation work performed during the past year. This description should include methods employed, and an evaluation of the results.

Work consisted of testing and monitoring of seed mix, germination rates, and fertilization of test plots at the mine site. See enclosed report "1992 Reclamation Project Follow-up"

7. What is the **total disturbed acreage** at years end? (252.74 Acres) Same as in 1992
8. Briefly summarize mining and/or reclamation plans for the upcoming year.

Work is planned to continue testing and monitoring of test plots as in 1993. Additional plant species will be considered in the seed mix. Additional test plots are also under consideration. Submit request for variance or release of reclaimed areas (see enclosed letter).

NOTE: Section III., "Additional Information" applies only to large mining operations.

III. ADDITIONAL INFORMATION

1. An updated surface facilities map should be attached if there have been significant changes since the previous map was submitted.
2. Any monitoring results or other reports that are required under the terms of the approved notice of intention should be attached.

IV. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct.

Name (Typed or Print): Greg G. Hawkins

Title of Operator: Mine Manager

Signature of Operator: 

Date: 1-31-94

TOPAZ MINING PROPERTY

LEGAL DESCRIPTION OF LANDS AFFECTED

Township 13 South, Range 12 West, SLM

Section 4

The SW $\frac{1}{4}$ of the SE $\frac{1}{4}$, and the SE $\frac{1}{4}$ and the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$.

Section 5

Lot 1 and Lot 2 and the SE $\frac{1}{4}$ and the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$, and All $\frac{1}{4}$'s of the SE $\frac{1}{4}$, and the NE $\frac{1}{4}$ and the SE $\frac{1}{4}$ and the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$, and Lot 3 and the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$.

Section 6

Unaffected

Section 7

All $\frac{1}{4}$'s of the SE $\frac{1}{4}$, and the NE $\frac{1}{4}$ and the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$.

Section 8

All of the NE $\frac{1}{4}$, and All $\frac{1}{4}$'s of the SE $\frac{1}{4}$, and the NE $\frac{1}{4}$ and the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$, and the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$.

Section 9

All $\frac{1}{4}$'s of $\frac{1}{4}$'s (entire section affected)

Section 10

The NW $\frac{1}{4}$ of the SW $\frac{1}{4}$, and the SW $\frac{1}{4}$ and the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$.

Section 16 (State School Section Lease)

The NE $\frac{1}{4}$ and the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$, and the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$.

Section 17

The NE $\frac{1}{4}$ and the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$.

Township 12 South, Range 12 West, SLM

Section 32 (State School Section Lease)

The SW $\frac{1}{4}$ of the NE $\frac{1}{4}$, and the SE $\frac{1}{4}$ and the SW $\frac{1}{4}$ and the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$, and the NE $\frac{1}{4}$ and the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$.

MEMORANDUM

DATE: 1-26-94

TO: Greg Hawkins, Don McMillian

FROM: Joe Hardy

SUBJECT: 1992 RECLAMATION PROJECT FOLLOW-UP

The follow up monitoring of the 1992 reclamation work was started the spring of 1993. The areas included were the Roadside/Fluro #3 waste sites (upper and lower tiers). Blue Chalk North (N.E. dump), Rainbow (N.E. dump), Section 16 #1 dump, the three 1992 test plots and the three 1991 test plots.

Each of the areas, with the exception of the areas too small, received what is referred to as a 100 pace transect. This was to determine percent ground cover and species composition. The areas too small for the regular 100 pace transect were given either a 50 or 25 pace transect. The findings were recorded in the transect were as follows:

1. Botanical name of the plant.
2. Litter, (consisting of dead or dying plant material, or anything bio-degradable).
3. Large Rock, (rock two inches or larger).
4. Small Rock, (rock smaller than two inches).
5. Bareground

If a plant is directly over the the "hit", it was recorded as an overstory along with the hit itself.

These findings were recorded and observed to be a good average representation of what is typical in these areas.

Along with the transect, a one square meter enclosure was constructed on pace #41 to give an impartial account of what was in the area. Species of plant were identified along with a estimate of the litter, large rock, small rock, and bare ground. These findings were recorded on a percentage basis. This is a good program to follow, however looking back it might be a good practice in the future to include at least two more enclosures per transect for a better determination of what is in the area (or do a larger enclosure).

Another enclosure was made in each of the areas mentioned above. This was made to help keep track of the prosperity of the preferred plantlife, namely the plants that had grown from the seed spread last fall. These enclosures were monitored closely with special emphasis on the growth and general condition of the plants. These site inspections were made on a monthly basis. These findings were recorded and filed for future endeavors.

Results of fertilization tests show conclusive evidence that the mono-ammonium phosphate 16-20-0 fertilizer was a big player in getting the young plants established. The areas where the fertilizer was used, the plants were not only in more abundance but also much healthier. In future reclamation endeavors it will be an added bonus to apply the mono-ammonium-phosphate along with the seed.

Through the 1992 study plots in the Section 16 area, it was very evident that the super-phosphate, urea, gypsum, and mulch had no more beneficial bearing on success in the study plots, than the mono-ammonium phosphate alone. Therefore in the future it is going to be normal practice to use the mono-ammonium phosphate in our reseeding.

Seed germination at this time is being conducted at our own facilities, with the concept of having an independent lab test the seed also, for verification purposes.

Soil samples have been sent to Utah State University of our topsoil to get a total fertilization profile testing. With most of the nutritive minerals showing almost barren to average levels, the sodium and ph levels have been very high, as was expected.

The dollar value in our Utah mine expense detail has been almost \$16,000 in total for all 1993 reclamation work conducted.

Overall the feelings of the reclamation and test plot studies undertaking and its success cannot be determined in a short duration of time. In an area such as ours many uncontrollable elements in nature can rob a successful endeavor. The winter of 1992 had abundant amounts of moisture helping in making the reclamation and study plots as successful as they were. However, in the summer months, as usual, there were many long periods of heat, wind and drought. The young plants, particularly the grasses and some browse species, took a nose dive during these times. In the autumn the plants seemed to snap out of it to some extent.

The older plants, such as the ones found in the 1991 test plots, fared fine all year long, because the root systems had been established for that additional year.

It is felt that this year has been very beneficial to the employees involved with the follow-up studies performed. These studies will continue in the future, and we welcome any ideas that might make our research more profitable.